PATENT SPECIFICATION

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447,820

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COMPLETE SPECIFICATION

Apparatus for the Detection of Smoke for Fire Alarm Purposes

We, LUX BRANDSLUKNING A/S, of Enebakveien 64C, Oslo Norway, a body corporate organised under the laws of Norway, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The invention relates to apparatus for the detection of smoke for fire alarm purposes of the kind in which the apparatus is connected to the compartments to be observed, for instance the loading compartments of ships and the like, through a plurality of tubes or hoses, and is provided with a single source of light illuminating the air or gases coming from the various compartments in such manner as to make it possible to observe through windows the air or gases from said compartment passing through detection chambers, arranged radially about the central source of light, each chamber being provided with an individual observation window.

According to this invention the source of light is enclosed in a central chamber, surrounded by a number of radially arranged detection chambers, convergent lenses being mounted radially to the source of light in the partitions between the central chamber and the individual detection chambers. The windows of the latter chambers are arranged transversely to the cone of light projected through the said lenses so as to render observation possible of whether the stream of air or gases passing through or across this cone of light contains solid matter (smoke) or not.

From these radial chambers the air passes out into a chamber common to all of the tubes and provided with an exit to the atmosphere; or each radial chamber may have a separate exit to the atmosphere.

One form of apparatus according to the present invention is shown by way of example in the accompanying drawings, in which:—

Figure 1 is a front view and

Figure 2 a side view partly in section.

In the drawings 1 is the source of light, namely an electric lamp, placed in a central chamber 2. In circumferential arrangement about this central lamp chamber are chambers 3, arranged radially in relation to the source of light 1. Each of these chambers 3 is connected to one of the compartments to be observed by a tube or hose. The drawings only show the connecting sleeves 4 of these tubes leading into the individual chambers 3. In the wall of the lamp chamber 2 are arranged, radially of the source of light, a number of convergent lenses 5, through which cones of light are thrown radially into the individual chambers 3, said chambers being provided with windows 6 in their front wall, i.e. the wall opposite to that in which the inlet sleeves 4 are disposed. In front of the inlet sleeves in the chambers 3 there are arranged deflection walls 7, forcing the air entering through the connecting tubes to pass through the cones of light from the lenses 5 in front of the windows 6, before it passes out through exits 8 to a chamber 9, surrounding all the chambers 3 and serving as an air draft chamber common to all of them. This chamber is provided with an exit 10 to the atmosphere, said exit being suitably connected to a suction fan (not shown) or the like providing the necessary power for effecting the air circulation from the compartments through the connecting tubes and the chambers 3 and 9. Each of the chambers 3 is also provided with a screen 11 preventing light from the source of light from being directly visible through the window 6.

As will be understood from the foregoing the apparatus, which may be placed on the bridge, in the engine room or elsewhere, is to be under control of an observer, whose attention will immediately be drawn, if any of the windows are lit up owing to smoke passing through the cone of light in the corresponding chambers 3, thereby making said cone luminous.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Apparatus for the detection of smoke in air or gases passing in a stream from a number of sources through a corresponding number of detection chambers

[Price 1/-]

arranged radially about a single central source of light, each detection chamber being provided with an observation window, characterised in that the source of light is enclosed in a central chamber surrounded by the radially disposed detection chambers, convergent lenses being mounted radially to the source of light in the partitions between said central chamber and the individual detection chambers, the observation windows of the latter chambers being arranged transversely to the cones of light projected by the source of light through said lenses into each detection chamber.

2. Apparatus as claimed in Claim 1 in which a deflecting wall is provided in each chamber for deflecting the stream of air or gas from the inlet tube in order to direct it into the visional field of the window.

3. Apparatus for the detection of smoke in air or gases from a number of sources substantially as described with reference to the accompanying drawings.

Dated this 23rd day of October, 1935.

W. P. THOMPSON & CO.,
12, Church Street, Liverpool, 1,
Chartered Patent Agents.

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Fig. 1.

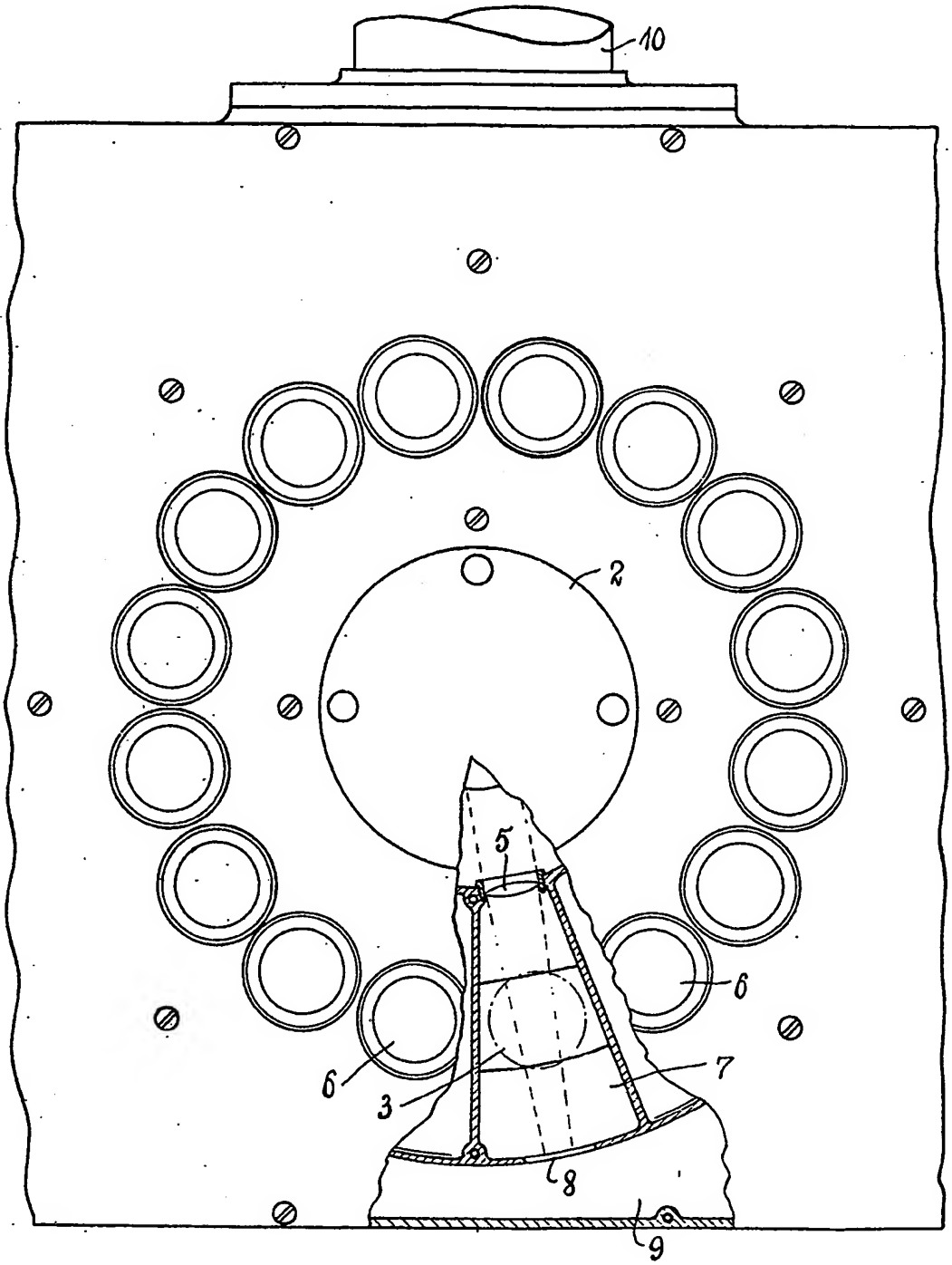
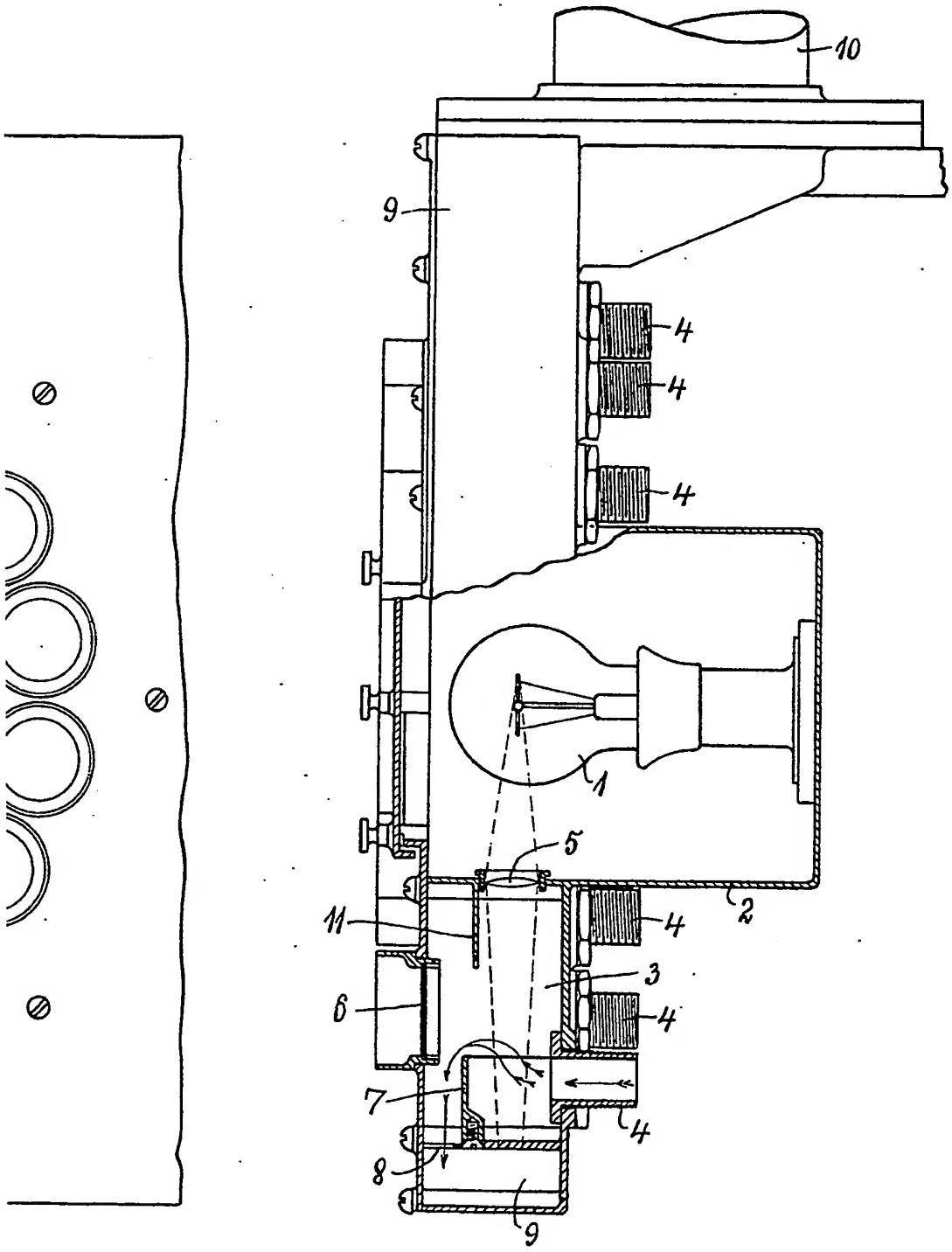


Fig. 2.



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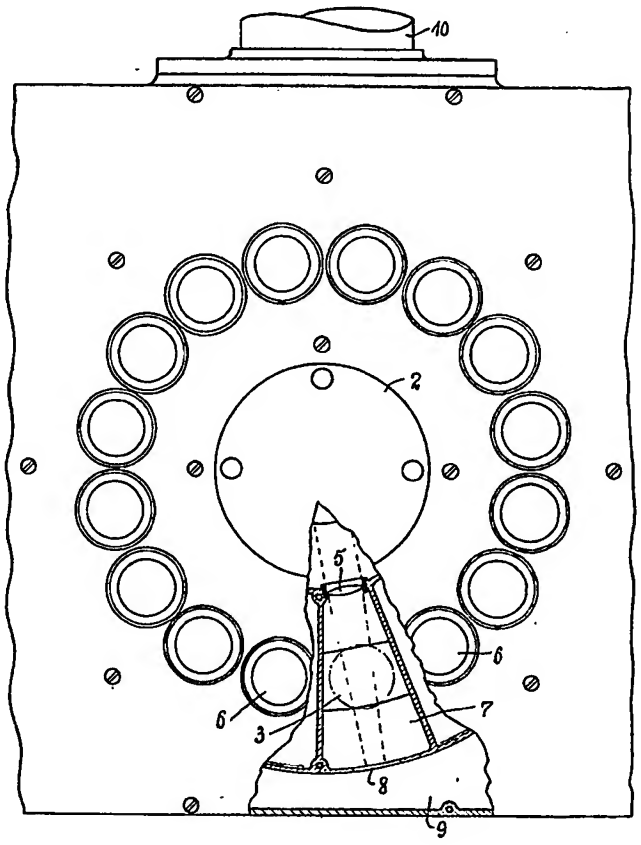
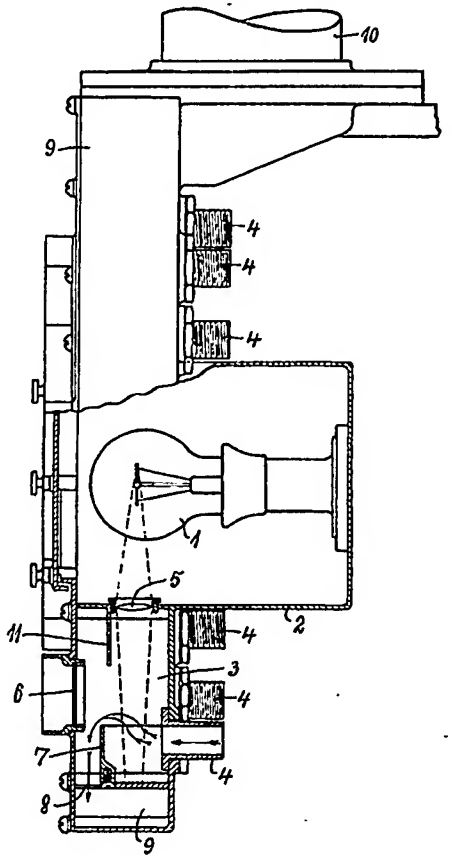


Fig. 2.



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